

REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claims 1, 2, 15, 16, and 23 have been canceled without prejudice or disclaimer. Claims 6, 8, 10, 11 and 20 are withdrawn as being directed to a nonelected invention. Claims 3-5, 9, 12-14, 17-19, 22, 24, 25, 27, 30 and 31 have been amended. Claims 4, 5, 12 and 27 have each been amended into independent claim form including all the limitations of base claim 1. Claim 18 has been amended into independent form including all the limitations of base claim 15 and intervening claim 17. Claims 19 and 24 have been amended into independent form including all the limitations of base claim 15. The remaining amendments have been made to correct claim dependencies. No new matter has been added.

Election/Restriction

Applicants affirm the withdrawal of claims 6, 8, 10, 11 and 20 because they are directed to a nonelected species.

§102 Rejection

Claims 1-5, 7, 9, 12, 15-19, 21-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by Zuev (U.S. 6,223,827). Applicants respectfully traverse this rejection. As noted above, claims 1, 2, 15, 16 and 23 have been canceled without prejudice or disclaimer, rendering this rejection moot as to those claims.

Claim 4 has been amended to incorporate the limitations of now canceled claim 1. Zeuv fails to disclose every limitation of claim 4 for at least the following reasons. In Zeuv, the compressed gas bottle 2 is provided with a gas pressure regulator 3. This gas pressure regulator 3 ensures that regardless of the remaining gas pressure within the compressed gas bottle 2, the flow of gas leaving the compressed gas bottle 2 will remain constant. Zeuv describes at column 3, line 7-11 that “compressed air under pressure of 300 bar is supplied (Figure 1) from the gas bottle 2 through the pressure regulator 3 (gas reduction valve) to ensure a preset pressure level, through the hose 7 into the plenum of the vessel 1 containing water (the gas pressure is 6 bar) ...” Zeuv fails to disclose that “the pressurised gas is pressurised by being stored under pressure which thus reduces during the flow thereof and reduces the mass flow rate of the gas . . .

whereby the reducing applied pressure correspondingly reduces the mass flow rate of the liquid extinguishing agent,” as required by claim 4. Therefore, Zeuv fails to disclose every limitation of claim 4.

Zeuv further discloses that the pressure of the stored gas is not applied to a pressurised liquid extinguishing agent. Instead, Zeuv discloses that the water in the water vessel 1 is pressurised by a reduced and contrast gas pressure of 6 bar as described at column 3, line 12 of Zeuv. This constant and reduced gas pressure used to pressurise the water vessel 1 is clearly not the pressure of the stored gas (which starts off at 300 bar). Therefore, Zeuv fails to disclose that “the control means includes means for applying the pressure of the stored gas to pressurise the liquid extinguishing agent,” as required by claim 4.

Claim 4 further requires that “the reducing applied pressure correspondingly reduces the mass flow rate of the liquid extinguishing agent.” Zeuv also fails to disclose this limitation of claim 4. As discussed above, the gas pressure applied to the water vessel in Zeuv is maintained at a constant 6 bar by the pressure regulator 3, as described at column 3, lines 8-12 of Zeuv. Accordingly, the mass flow rate of the water will remain constant, which is contrary to the requirement of claim 4.

Claim 5 has been amended to include the limitations of now canceled claim 1. Claim 5 further requires “controllable valve means for adjusting the mass flow rate for the liquid extinguishing agent during the discharge.” Zeuv fails to disclose this limitation of claim 5. Zeuv fails to disclose a controllable valve means for adjusting the mass flow rate of a liquid extinguishing agent during the discharge. Instead, as discussed above, the water in the water vessel 1 disclosed by Zeuv is maintained at a constant pressure of 6 bar (see column 3, line 12 of Zeuv) such that the mass flow rate of a liquid extinguishing agent is maintained constant, and is not adjusted as required by claim 5.

Providing adjustability of the mass flow rate of liquid extinguishing agent during discharge provides certain advantages. For example, such adjustability helps to maintain the ratio of water relative to the mass flow of gas at a desired constant value suitable for producing water droplets of a desired constant size. This is described in the first full paragraph at page 5 and also the paragraph bridging pages 5-6 of the present application.

Zeuv also fails to disclose the limitations of dependent claim 7. Dependent claim 7 requires that the valve means include a controllable metering valve means, and the control means includes means for adjusting the metering valve means and dependence on the pressure of the stored gas. Zeuv fails to disclose a metering valve means that is adjustable in dependence on the pressure of the stored gas. Therefore, Zeuv fails to disclose every limitation of claim 7.

Claims 3 and 9 have been amended to depend from claim 5. These changes in claim dependency are supported by the three embodiments shown in Figures 1, 3 and 4, respectively. In all three of these embodiments, the liquid extinguishing agent is pressurised using the compressed gas via the inner connection 30. Accordingly, all three of the embodiments shown in Figures 1, 3 and 4 of the present application illustrate the control means including means for pressurizing the liquid extinguishing agent in dependence on the pressure of the gas. Additionally, in all three embodiments of Figures 1, 3 and 4, the control means includes means for controlling the pressure of the pressurised extinguishing agent. The pressurising of the liquid extinguishing agent and the control of the pressure of the liquid extinguishing agent is achieved using the inner connection 30.

Claim 12 has been amended into independent form including the limitations of canceled claim 1. Claim 12 recites “means for initiating the flow of the liquid extinguishing agent before initiating the flow of the gas.” The Examiner contends that “the liquid extinguishing agent flow is initiated before the gas flow because the mist must be introduced before the gas flow is introduced into the mixing chamber or only gas will be dispensed from the device.” Applicants submit that Zeuv fails to support this assertion. In Zeuv, a single valve (the pressure regulator 3) is used to control release of pressurised gas via the conduit 6 into the nozzle device 4 and also pressurization of the liquid in the water container 1, via the flexible hose 7. Accordingly, the arrangement disclosed by Zeuv makes it impossible for the flow of the liquid extinguishing agent to be initiated before the flow of the gas, because once the gas pressure regulator 3 is open so as to allow gas to be fed to the water vessel 1 via the flexible hose 7, gas is already being simultaneously being fed to the nozzle device 4 via the hose 6. As described in the first full paragraph at page 9 of the present application, it is advantageous to initiate the flow of the liquid before the flow of the gas because this helps to ensure the discharge of water mist substantially instantaneously upon the opening of the gas vessel 14, and helps to reduce the problematic

formation of ice. In view of the above, Applicants submit that Zeuv fails to disclose every limitation of claim 12.

Claims 13 and 14 have been amended to depend from claim 4. This change in claim dependency is supported at the last paragraph at page 5 of the present application. The possibility of the liquid extinguishing agent being water and the possibility of a liquid extinguishing agent being a chemical substance apply to all of the embodiments described in the present application.

Claim 18 has been amended into independent form including all the limitations of claim 15. Claim 18 substantially tracks the limitations of claim 4, which have been argued as patentable over Zeuv in the above discussion. Therefore, Applicants submit that claim 18 is allowable over Zeuv for at least those reasons described above related to claim 4.

Claim 19 has been amended into independent form including all the limitations of base claim 15. Claim 19 tracks the limitations of claim 5 and is therefore allowable over Zeuv for at least the same reasons as discussed above related to claim 5.

Claims 17 and 22 have been amended to depend from claim 19. Claims 17 and 22 track the limitations of claims 3 and 9 described above and therefore are supported for the same reasons described above related to claims 3 and 9.

Claim 24 has been amended into independent form including all the limitations of base claim 15. Amended claim 24 tracks many of the limitations of claim 12, and is therefore considered to be allowable over Zeuv for at least the reasons discussed above related to claim 12.

Claims 25 and 26 have been amended to depend from claim 18. The amendments to claims 25 and 26 are supported by the embodiment described at the final paragraph at page 10 of the present application.

Claim 27 has been amended into independent form including all the limitations of base claim 1. Claim 27 recites that the control means is preprogrammed with values. Zeuv fails to disclose or suggest this limitation. The preprogramming of the control means as recited in claim 27 provides that the control means is physically distinguished by actually containing the

preprogrammed values. In other words, the presence of the values in the control means is a physical distinction in the actual product as compared to Zuev. Therefore, Applicants submit that Zeuv fails to disclose every limitation of claim 27.

Further to the above, Applicants submit that each of the dependent claims are allowable for at least the reason they are dependent upon an allowable base claim. Applicants do not otherwise concede the correctness of any of the rejections set forth in the present Office Action as they apply to the pending dependent claims.

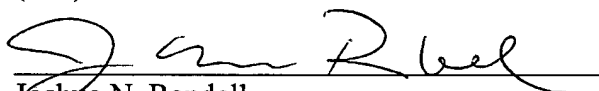
In view of the above, Applicants request reconsideration of the application in the form of a Notice of Allowance. If a telephone conference would be helpful in resolving any further issues related to this matter, please contact Applicants' attorney listed below at 612.371.5387.

Respectfully submitted,



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